

ABSTRACT OF THE INVENTION

An instrument (e.g., a card or an optical data storage disc such as a CDROM) embodying the invention includes a pattern formed on or within the instrument, whereby the instrument, when illuminated by a light source, produces a unique output light pattern which can be detected by a photo sensor. The formed pattern may take any number of different and randomly formed shapes ranging from stripes of different size and spacing, as in a bar code, to complex two dimensional shapes and images. The pattern formed between the top and bottom surfaces of an instrument may include randomly distributed light pipes (paths) extending from one side of the instrument to one, or more, other side(s) of the instrument. Alternatively, the pattern formed between the top and bottom surfaces may include a number of "pitted" optical fibers extending from a side of the instrument to a "hidden" region internal to the instrument, which does not extend to any of the sides or surfaces of the instrument. Alternatively, the pattern formed between the top and bottom surfaces of the instrument (e.g., a CDROM) may include opaque optical fibers extending within a region of the instrument. Alternatively, a pattern may be formed on an instrument (e.g., a CDROM) by laser etching or scribing a random pattern on a surface of the instrument.